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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,151	10/31/2003	John D. Hottovy	210330US (CPCM:0020/FLE)	1478
7590 07/10/2006			EXAMINER	
Michael G. Fletcher Fletcher Yoder P.O. Box 692289 Houston, TX 77269-2289			CHEUNG, WILLIAM K	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/699,151

Applicant(s)

HOTTOVY, JOHN D.

Examiner

William K. Cheung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. In view of argument filed June 19, 2006, that applicants should be given a fair opportunity to reply and that all pending claims are original claims, the finality status of instant application has been withdrawn.
2. Claims 1-11, 17-22 are pending.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 7-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 8 recites the limitation "0.3 gm/10 min " in line 4. The independent claim 7 (line 4) recites "greater than 0.4 gm/ 10min". There is insufficient antecedent basis for this limitation in the claim.

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6. Claim 9 recites the limitation "0.3 gm/10 min " in line 4. The independent claim 7 (line 4) recites "greater than 0.4 gm/ 10min". There is insufficient antecedent basis for this limitation in the claim.

7. Claim 7 recites the limitations "a first polymerization step" (line 2) and "a second polymerization step" (line 6) characterized by the melt index of the polymer produced are considered indefinite. Without any intermediate step(s) and any indication that the process has been stopped in between the first polymerization step and the second polymerization step, one of ordinary skill would not know the end of the first step and the beginning of the second step. The examiner has considered the loop reactor (Figure 1) of applicants' specification. Since Figure 1 only indicates a single loop reactor, how can a polymerization process be carried in two polymerization steps?

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-6 are rejected under 35 U.S.C. 103(a) as obvious over Stanley et al. (US 3,244,681).

*The invention of claims 1-6 relates to a **polymerization process** comprising: **polymerizing in a loop reactor** having an **inner surface**, at least one **olefin monomer in a liquid medium** to produce a **fluid slurry** comprising solid olefin polymer particles in a liquid medium, wherein said inner surface of said loop reactor has a root mean square surface roughness less than about 120 micro inches.*

Stanley et al. in its entirety, particularly (Figure; col. 1, line 49 to col. 3, line 16; col. 5-6, claims 1-2) describe a polymerization process comprising a loop reactor, olefin monomers in a liquid medium to produce a fluid slurry.

The difference between the invention of claims 1-6 and Stanley et al. is that Stanley et al. are silent on a loop reactor has a root mean square surface roughness less than about 120 micro inches.

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However, because Stanley et al. (col. 1, line 61-64; col. 6, claim 3) clearly suggest one of ordinary skill to employ a loop reactor having a reactor zone (inner surfaces) with smooth surface, or as smooth as possible, it would have been obvious to one of ordinary skill in art to polish all the inner surface area of loop reactor of Stanley et al. to obtain a loop reactor has a root mean square surface roughness less than about 120 micro inches. Although Stanley et al. may not use the same units for measuring smoothness or roughness, applicants must recognize that the recited "root mean square surface roughness" is merely a functional language for gauging roughness or smoothness that does not lend itself to patentability.

10. Claims 7-11, 17-22 are rejected under 35 U.S.C. 103(a) as obvious over Stanley et al. (US 3,244,681).

*The invention of claims 7-11, 17-22 relates to a **polymerization process** comprising:*

*a **first polymerization step** comprising polymerizing in a **loop reactor** at least one **olefin monomer** in a **liquid medium** to produce a **first product fluid slurry** comprising a **liquid medium and solid olefin polymer particles** having a **melt index less than 0.3 gm/10 min** and*

*a **second polymerization step** comprising polymerizing in **said loop reactor** at least one **olefin monomer** in a **liquid medium** to produce a **second product fluid***

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slurry comprising a liquid medium and solid olefin polymer particles having a melt index greater than 0.4 gm/10 min.

In view of the 112 rejection set forth for claims 7-11 in the instant office action, the examiner has a reasonable basis to treat the recited two polymerization steps in claim 7 as one polymerization step. Further, claims 7-11 are grouped with claims 17-22 for the instant rejection.

Stanley et al. in its entirety, particularly (Figure; col. 1, line 49 to col. 3, line 16; col. 5-6, claims 1-2) describe a polymerization process comprising a loop reactor, olefin monomers in a liquid medium to produce a fluid slurry.

The difference between the invention of claims 7-11, 17-22 and Stanley et al. is that Stanley et al. are silent on a loop reactor has a root mean square surface roughness less than about 120 micro inches.

However, because Stanley et al. (col. 1, line 61-64; col. 6, claim 3) clearly suggest one of ordinary skill to employ a loop reactor having a reactor zone (inner surfaces) with smooth surface, or as smooth as possible, it would have been obvious to one of ordinary skill in art to polish all the inner surface area of loop reactor of Stanley et al. to obtain a loop reactor has a root mean square surface roughness less than about 120 micro inches. Although Stanley et al. may not use the same units for measuring

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smoothness or roughness, applicants must recognize that the recited "root mean square surface roughness" is merely a functional language for gauging roughness or smoothness that does not lend itself to patentability.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K. Cheung whose telephone number is (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'William K. Cheung', with a stylized flourish at the end.

William K. Cheung, Ph. D.

Primary Examiner

March 11, 2006

WILLIAM K. CHEUNG
PRIMARY EXAMINER